

Patent Claims:

1. A protective cap (2) for a temperature measurement probe (30) of an infrared radiation thermometer (1) introducible
5 into a body cavity (31), said cap being comprised of a base body (12) shaped to fit the body cavity (31) and having a window (15) transparent to infrared radiation,
characterized in that the base body (12) is provided with additional structures (13; 18, 20) at least in parts to improve heat
10 insulation between the temperature measurement probe (30) and the body cavity (31).

2. The protective cap as claimed in claim 1,
characterized in that the base body (12) is fabricated from plastic material and that the additional structures (13; 18, 20)
15 are formed of soft, porous foamed plastic material (13).

3. The protective cap as claimed in claim 1,
characterized in that the additional structures are formed of one or several air chambers (18, 20).

4. The protective cap as claimed in claim 3,
20 **characterized in that** the air chamber(s) is (are) formed by foamed plastic (13) having closed pores.

5. The protective cap as claimed in claim 3,
characterized in that the air chamber(s) (18, 20) has (have) its (their) outside(s) close to the body cavity bounded by a
25 flexible film.

6. The protective cap as claimed in claim 3,
characterized in that the air chamber(s) (18, 20) has (have) its (their) outside(s) bounded by a flexible outer film fabricated from plastic, preferably polypropylene (PP) or polyethylene
30 (PE).

7. The protective cap as claimed in claim 3,
characterized in that the air chamber(s) (18, 20) is (are) sub-
divided by fin members (22, 23; 25).

8. The protective cap as claimed in claim 7,
5 characterized in that the fin members (22, 23) are formed of
foamed plastic material.

9. The protective cap as claimed in claim 2 or 4,
characterized in that the window is formed of a window film (15)
transparent to infrared radiation.

10 10. The protective cap as claimed in claim 9,
characterized in that the window film (15) is stretched tight in
the area of the window by means of a holding device (26).

11. The protective cap as claimed in claim 10,
characterized in that the holding device is formed by an annular
15 body (26).

12. The protective cap as claimed in claim 11,
characterized in that the clamping device (26) is clamped upon
the end of the tubular base body (12) closed by the window.

13. The protective cap as claimed in claim 1,
20 characterized in that the entire base body (12) is provided with
thermally insulative means (13; 18, 20), and that the window is
reduced to the thickness of an infrared transmitting film by hot
pressing or hot stamping.

14. The protective cap as claimed in claim 1,
25 characterized in that the base body (12) is formed of plastic
material, preferably polyethylene (PE) or polypropylene (PP).

15. The protective cap as claimed in claim 2,
characterized in that the thermally insulating foamed plastic
(13) is preferably made of polyethylene (PE), polyvinyl or
polyurethane (PU).

5 16. The protective cap as claimed in claim 1,
characterized in that the base body (12) of the protective cap
(2), prior to being applied to the temperature measurement probe
(30), is not as yet shaped to fit the body cavity (31) and that
10 it is made of a material that is expandable such as to be
stretched to this particular shape only when being fitted over
the temperature measurement probe (30).

17. A protective cap for a temperature measurement probe
(30) of an infrared radiation thermometer (1) introducible into
a body cavity (31), said cap being shaped to fit the body cavity
15 (31) and having a window (15) transparent to infrared radiation,
characterized in that the protective cap (2) is fabricated from
a thermally insulating material and that a forming operation is
used to bring the window (15) to the thickness transmissive to
infrared radiation.

20 18. The protective cap as claimed in claim 17,
characterized in that the forming operation is a hot pressing or
hot stamping operation.
